

WHAT IS CLAIMED IS:

1. A radial roller bearing, comprising:
an outer ring;
5 an inner ring; and,
a cylindrical roller interposed between the outer ring
and the inner ring,
the outer and inner rings respectively including flange
portions formed in the end portions thereof so as to be opposed
10 to the end face of the cylindrical roller,
wherein, in the end face of the cylindrical roller, there
is formed a circular-ring-shaped contact portion of the roller
end having centers of curvature continuously existing on a circle
which lies on a plane parallel to the end face of the cylindrical
15 roller and also the center of the circle is on the rotation
axis of the cylindrical roller.
2. A radial roller bearing as set forth in Claim 1, wherein,
where the distance from the center of curvature of the contact
20 portion of the roller end to the rotation axis of the cylindrical
roller along the radial direction of the cylindrical roller
is expressed as ξ and the diameter of the cylindrical roller
is expressed as D_a , the distance is set that $\xi = 0.1D_a$ to $0.4D_a$.
- 25 3. A radial roller bearing as set forth in Claim 2, wherein,

where the distance from the center of curvature of the contact portion of the roller end to the rotation axis of the cylindrical roller along the radial direction of the cylindrical roller is expressed as ξ , the diameter of the cylindrical roller is expressed as D_a and the composite roughness of the contact portion between the contact portion of the roller end and the flange portion is expressed as σ , the composite roughness is set that $\sigma \leq -10.4 (\xi/D_a)^2 + 2.2 (\xi/D_a) + 0.9$.

10 4. A radial roller bearing as set forth in Claim 2, wherein, where the radius of curvature of the contact portion of the roller end is expressed as η and the diameter of the cylindrical roller is expressed as D_a , the radius of curvature is set that $\eta = 2.0D_a$ to $20.0D_a$.

15 5. A radial roller bearing as set forth in Claim 3, wherein, where the radius of curvature of the contact portion of the roller end is expressed as η and the diameter of the cylindrical roller is expressed as D_a , the radius of curvature is set that
20 $\eta = 2.0D_a$ to $20.0D_a$.